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Attorney Docket No. P20418

In re application of : Thomas THORÖE SCHERB et al.

Serial No. : 09/769,462

Group Art Unit : 1731

Filed : January 26, 2001

Examiner : P. Chin

For : MACHINE AND PROCESS FOR PRODUCING A TISSUE WEB

THE COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

Sir:

Transmitted herewith is an Appeal Brief under 37 C.F.R. §1.192 (in triplicate) in the above-captioned application.

- ☐ Small Entity Status of this application under 37 C.F.R. 1.9 and 1.27 has been established by a previously filed statement.  
☐ A verified statement to establish small entity status under 37 C.F.R. 1.9 and 1.27 is enclosed.  
☐ A Request for Extension of Time.  
☐ No Additional Fee.

The fee has been calculated as shown below:

Claims After Amendment	No. Claims Previously Paid For	Present Extra	Small Entity		Other Than A Small Entity	
			Rate	Fee	Rate	Fee
Total Claims: 54	*54	0	x 9=	\$	x 18=	\$ 0.00
Indep. Claims: 3	**3	0	x 42=	\$	x 84=	\$ 0.00
Appeal Brief Filing Fee				\$		\$320.00
Extension Fees for Month				\$		\$ 0.00
Total:				\$	Total:	\$320.00

\*If less than 20, write 20

\*\*If less than 3, write 3

- ☐ Please charge my Deposit Account No. 19-0089 in the amount of \$ \_\_\_\_\_.  
☒ A Check in the amount of \$320.00 to cover the filing fee is included.  
☒ The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 19-0089.  
☒ Any additional filing fees required under 37 C.F.R. 1.16.  
☒ Any patent application processing fees under 37 C.F.R. 1.17, including any required extension of times fees in any concurrent or future reply requiring a petition for extension of time for its timely submission (37 CFR 1.136)(a)(3)

Neil F. Greenblum  
Reg. No. 28,394

\$35,043

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellants : Thomas THORÖE SCHERB et al.

Group Art Unit: 1731

Appln. No. : 09/769,462

Examiner: P. Chin

Filed : January 26, 2001

For : MACHINE AND PROCESS FOR PRODUCING A TISSUE WEB

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**APPEAL BRIEF UNDER 37 C.F.R. § 1.192**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

This appeal is from the Examiner's decision to finally reject claims 1 - 54 as set forth in the Final Official Action of July 31, 2002.

A Notice of Appeal in response to the July 31, 2002 Final Office Action was filed December 2, 2002, along with a One-month Extension of Time. Further, the instant Appeal Brief is being timely submitted within two-months of the Notice of Appeal, i.e., by February 3, 2003 (February 2, 2003 being a Sunday).

The requisite fee under 37 C.F.R. 1.17(c) in the amount of \$ 320.00 for the filing of the Appeal Brief is being paid by check, submitted herewith. However, if for any reason the necessary fee is not associated with this file, the Commissioner is authorized to charge the fee for the Appeal Brief and any necessary extension of time fees to Deposit Account No. 19 - 0089.

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TELETYPE/E002

320.00 DP

This appeal brief is being submitted in triplicate, pursuant to 37 C.F.R. 1.192(a).

**(1) REAL PARTY IN INTEREST**

The real party in interest is Voith Paper Patent GmbH by an assignment recorded in the U.S. Patent and Trademark Office on March 7, 2001 at Reel 011570 and Frame 0623.

**(2) RELATED APPEALS AND INTERFERENCES**

No related appeals and/or interferences are pending.

**(3) STATUS OF THE CLAIMS**

Claims 1 - 54, the only claims pending in the instant application, stand finally rejected.

**(4) STATUS OF THE AMENDMENTS**

No amendments have been presented subsequent to the Final Office Action.

**(5) SUMMARY OF THE INVENTION**

The instant invention is directed to relates to a machine and process for producing a tissue web having a forming area including at least one rotating continuous dewatering wire. (Specification paragraph [0001]). The instant invention includes an arrangement and process in which a shoe press and at least one dewatering wire with zonally varied (different) wire permeability are provided in the forming area to achieve an arrangement of fibers of a tissue web, even at high machine speeds, so that the water absorption capacity, water retention capacity, water absorption rate, and specific volume (bulk) are increased or improved in as cost-effective a manner as possible. (Specification paragraphs [0004] - [0005]).

Attempts have been made to influence the quality parameters of a tissue web, e.g., water absorption capacity, water retention capacity, and water absorption rate, by configuring the surface structure of the web. In particular, these prior attempts have utilized “embossing wires” or “embossing felts,” however, these wires or felts emboss their own surface structure onto the already formed tissue web. Further, the tissue web is loaded with pressure, which counteracts the desired high volume (bulk). (Specification paragraph [0003])

To avoid the above-noted drawbacks of the prior art, the instant invention, directed to a machine and process for producing a tissue web 12, includes former 10, as shown in Figures 1 and 2. Moreover, in the forming area, and preferably in the initial dewatering area, at least one dewatering wire with zonally varied or different wire permeability is provided in combination with a shoe press. Former 10 includes two continuous rotating dewatering belts 14 and 16 that converge, forming a stock entry gap 18, and are subsequently conducted over a forming element, e.g., forming roll 20. According to the invention, at least one of the two dewatering wires 14 and 16 is provided as a wire with zonally different wire permeability. If necessary, a conditioning device, such as, in particular, a wire cleaning device 50, can be assigned to each DSP wire. (Specification paragraphs [0053] - [0057]; and Figures 1 and 2).

The dewatering wires with zonally different wire permeability can include, e.g., a fabric formed by filling and warp yarns, and the zones of different wire permeability can be

produced, e.g., using weaving yarns of varied diameter and/or varied weave pattern. It is disclosed that a suitable wire of zonally different permeability is described in PCT/GB99/02684, the disclosure of which is expressly incorporated by reference in the instant application in its entirety. By way of example, it is noted that the wires in question can include, in particular, a fabric in which yarns provided in one or more planes and running in a first direction are woven together with yarns running in a second direction, such that a grid is formed that separates a number of systematically distributed areas of specified configuration from one another and fixes them accordingly, with the systematically distributed areas each including at least three yarns running in the one direction and at least three yarns running in the other direction. The yarns can be in particular filling yarns and warp yarns. (Specification paragraphs [0068] - [0069]; and Figures 1 and 2).

An exemplary illustration of the weave pattern of the wire with zonally different wire permeability is depicted in Figure 4, in which a repeating weave pattern diagram includes ten warp yarns and ten filling yarns. In the area of the hatched squares, the filling yarn lies beneath the warp yarn. In the area of the light squares, on the other hand, the filling yarn lies above the warp yarn. Depending on the circumstances of each case, the one or else the other side of the weave pattern diagram can lie outside. Moreover, hatched areas form a grid 62, by which a number of systematically distributed zones (areas) 64 of specified configuration are separated from one another and fixed accordingly. As shown in Figure 4, the dimensions

of the zones are depicted as Az, which can represent areas of high permeability or areas of low permeability, however, it is not necessary that these dimensions are the same. In any event, Az represents the length and/or width of zones having a permeability different than that of the other zones. (Specification paragraph [0074] - [0075]).

**(6) ISSUES**

**(A) Whether Claims 1 - 54 are Improperly Rejected Under 35 U.S.C. § 103(a) as Unpatentable Over SCHIEL (U.S. Patent No. 6,004,429) or EDWARDS et al. (U.S. Patent No. 6,287,426) [hereinafter “EDWARDS”] in view of HAY et al. (International Publication No. WO 00/12817) [hereinafter “HAY”].**

**(7) GROUPING OF CLAIMS**

For the purpose of this appeal, Appellants submit that none of the claims stand or fall together. Therefore, each of claims 1 - 54 are separately patentable for the reasons set forth hereinbelow.

**(8) ARGUMENT**

**(A) The Rejection of Claims 1 - 54 Under 35 U.S.C. § 103(a) Over SCHIEL or EDWARDS in view of HAY is in Error, the Rejection Should be Reversed, and the Application Should be Remanded to the Examiner.**

The Examiner asserts that SCHIEL and EDWARDS show all of the recited features, but that, to the extent that a wire with zonally varied permeability is not shown, it would have

been obvious to modify these systems to utilize such a known wire such as disclosed in HAY. Appellants traverse the Examiner's assertions.

Appellants submit that, as HAY cannot be applied against the pending claims under 35 U.S.C. § 103(a), for the reasons set forth below, the instant rejection is improper and must be withdrawn.

In a response under 37 C.F.R. 1.116 filed October 31, 2002, Appellants submitted a verified translation of the priority document, thereby perfecting Appellant's claim of priority of German Patent Application No. 100 03 686.4 filed January 28, 2000. As such, Appellants pointed out that, as the priority date of the instant application predates the March 9, 2000 publication date of HAY, HAY cannot be considered prior art under 35 U.S.C. § 102 (a) or (b), and, therefore, can only be applied against the pending claims under 35 U.S.C. §102(e).

Moreover, for reasons set forth in Appellants' October 31, 2002, as HAY is not available as prior art under 35 U.S.C. §102(e). Accordingly, Appellants again note that HAY cannot be applied against the pending claims in an obviousness-type rejection under 35 U.S.C. § 103(a).

Appellants note that, as the International Application of HAY did not designate the United States, no U.S. application for patent or patent was granted on the International Application of HAY. Therefore, Appellants note that HAY cannot be considered prior art under 35 U.S.C. §102(e)(1) or (2). Therefore, as HAY does not qualify a prior art under 35

U.S.C. § 102, HAY cannot be properly applied against the claims in an obvious rejection under 35 U.S.C. § 103(a).

Further, even assuming, *arguendo*, that one were to consider HAY prior art under 35 U.S.C. §102(e) (which Appellants submit is improper) Appellants note that, under 35 U.S.C. section 103(c), subject matter developed by another person, which qualifies as prior art only under one of 35 U.S.C. 102(e), (f), or (g) shall not preclude patentability under 35 U.S.C. § 103 where the subject matter and the claimed invention (filed in the U.S. Patent and Trademark Office after November 29, 1999) were, at the time the invention was made, commonly owned. In other words, if, at the time the instant invention was made, the instant invention and HAY were commonly owned, HAY cannot be used as a reference against the claimed invention in an obviousness rejection under 35 U.S.C. § 103.

As the instant application was filed January 26, 2001, i.e., after the effective date of the 35 U.S.C. § 103(c), HAY cannot be applied against the pending claims under 35 U.S.C. § 103(a) if it and the instant invention were commonly owned at the time the instant application was filed in the U.S. Patent and Trademark Office. Accordingly, the Board's attention is directed to fact that Voith Paper Patent GmbH is the assignee of record in the instant application and that HAY, as identified on the International Publication, was assigned to Scapa Group.

However, as evidenced by the document identified as Appendix A (forwarded in



Appellants' responses of October 31, 2002 and December 2, 2002), Voith Fabrics became a division of the Voith Group in 1999 following a merger of Appleton Mills and Scapa, which predates the invention date of the instant invention. Thus, subsequent to the merger, HAY was owned by Voith Fabric. Further, as the document identified as Appendix B (in Appellants' responses of October 31, 2002 and December 2, 2002) shows that the Voith Group includes both Voith Fabrics and Voith Paper, Appellants submit that, at the time of the instant invention, i.e., the January 28, 2000 priority date, the instant invention and HAY were commonly owned.

Accordingly, Appellants submit that, as the instant invention and the patented invention were commonly owned at the time of the present invention, HAY cannot be used as a reference against the pending claims under 35 U.S.C. § 103(a).

Of course, assuming, *arguendo*, that HAY is considered prior art against the pending claims, which Appellants submit it cannot, Appellants submit that it would not have been obvious to combine the applied documents in the manner asserted by the Examiner in the instant action. Appellants' independent claim 1 recites, *inter alia*, a forming area including at least one rotating continuous *dewatering wire with a plurality of zones having different wire permeabilities*, and *at least one shoe press*. Independent claim 22 recites, *inter alia*, dewatering the tissue web with at least the at least one continuous *dewatering wire with said plurality of zones having different wire permeabilities*, and *pressing* the tissue web in the at

least one shoe press. Appellants' independent claim 39 recites, *inter alia*, a forming element, at least two rotating continuous dewatering wires, in which *at least one of said two rotating continuous dewatering wires has a plurality of zones with different wire permeabilities*, arranged over said forming element, as an outer wire not in contact with said forming element and as an inner wire, and *at least one shoe press arranged downstream, relative to a wire travel direction, from said forming element*. Appellants submit that no proper combination of SCHIEL or EDWARDS with HAY teaches or suggests at least the above-noted features.

Appellants note that, while both SCHIEL and EDWARDS disclose machines for forming tissue or creped webs, neither document provides any teaching or suggestion of a forming area that includes a continuous dewatering wire with a plurality of zones having different wire permeabilities. In fact, the applied art fails to provide any teaching or suggestion of the specific structure of the wire, and certainly no teaching or suggestion as to how the specific structure affects the physical characteristics of the resulting web.

Further, Appellants note that the instant invention provides an apparatus and process to improve physical characteristics of the web, e.g., water absorption capacity, water absorption rate, water retention capacity, specific volume, *see* Specification, paragraph [0004]. According to the instant invention, the above-noted physical properties of the web are improved by a forming region having at least one circulating, continuous dewatering wire

comprising at least two zones having different wire permeabilities and a press shoe located downstream of the forming region.

In contrast to the instant invention, Appellants note that neither SCHIEL nor EDWARDS provide any teaching or suggestion that physical characteristics of the resulting web can be improved by the structure of the dewatering wire. Because the art of record fails to provide any teaching or suggestion of utilizing a dewatering wire having a plurality of zones having different wire permeabilities, Appellants submit that the applied documents fail to teach or suggest the combination of features recited in at least independent claims 1, 22, and 39, and that the rejection under 35 U.S.C. § 103(a) is improper and should be withdrawn.

Thus, absent some other teaching in the art, Appellants submit that it would not have been obvious to one ordinarily skilled in the art to modify the structural features of the dewatering wires of SCHIEL or EDWARDS in any manner that would render in instant invention unpatentable.

In this regard, the Examiner has asserted that it would have been obvious to utilize the wire disclosed in HAY in place of the dewatering wire of SCHIEL or EDWARDS. Appellants reiterate that, by perfecting their claim of priority, HAY is not prior art against the instant application under 35 U.S.C. § 102(a), (b) or (e), and that, according to 35 U.S.C. § 103(c), HAY cannot be applied against the pending claims in an obviousness-type rejection. However, even assuming, *arguendo*, that common ownership is disputed by the

Board, Appellants submit that the asserted combination is merely the product of impermissible hindsight after reviewing Appellants' disclosure, and that the applied art fails to provide any motivation or rationale for combining the documents in the manner asserted by the Examiner.

In particular, Appellants submit that, while HAY expressly discloses various belts or wires formed with various weave patterns, there is no teaching or suggestion that these various weave patterns form a plurality of zones having different wire permeabilities, as recited in at least Appellants' independent claims. In fact, Appellants submit that the disclosure in this document is limited only to the weave *pattern*, and there is no suggestion in the document that this pattern would result in a plurality of zones having different wire permeabilities. Further, Appellants note that HAY fails to provide any teaching or suggestion of utilizing the dewatering wire in combination with a press shoe, as recited in at least Appellants' independent claims.

Moreover, Appellants note that HAY discloses that the belt is utilized to form a *patterned web* (i.e., the visual appearance of the web), and that there is no teaching or suggestion in the applied document that the belt affects the *physical characteristics* of the web. In particular, HAY does not suggest another use or advantage of the patterned wire design.

Because neither SCHIEL nor EDWARDS provide any teaching or suggestion for

forming a patterned web and neither document suggest any intention of producing a patterned web, Appellants submit that the art of record fails to provide any teaching or suggestion as to why one ordinarily skilled in the art would replace the dewatering wire with a wire such as HAY, which intentionally creates a patterned web. Accordingly, Appellants submit that the art of record fails to provide the requisite motivation or rationale for combining the documents in the manner asserted by the Examiner.

Appellants further note that, as the art fails to provide any teaching or suggestion that the identified zones of HAY have different wire permeabilities, the art of record fails to provide any teaching or suggestion for combining the art of record in any manner that would render the instant invention unpatentable. In fact, Appellants submit that basis for Examiner's assertions that HAY provides different wire permeabilities is based upon the disclosure of the inventors in the instant application, and that to use this teaching against the inventors would be an impermissible use of hindsight.

Moreover, even assuming, *arguendo*, that one were to find it obvious to modify either SCHIEL or EDWARDS in view of HAY (which Appellants submit one would not), Appellants further submit that dependent claims 2 - 21, 23 - 38, and 40 - 54, which further define the instant invention, and, therefore, further distinguish the invention over any proper combination of SCHIEL or EDWARDS in view of HAY, recite additional subject matter that provides a separate basis of patentability. In particular, because claims 2 - 21, 23 - 38, and

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40 - 54 recite additional features that further define the present invention, Appellants submit that no proper combination of SCHIEL or EDWARDS in view of HAY teaches or suggests, *inter alia*, a former including a forming element and two rotating continuous dewatering belts, said two rotating continuous dewatering belts being arranged to converge to form a stock entry gap and being conducted over said forming element as an outer belt, which does not contact said forming element, and as an inner belt, wherein at least one of said outer and said inner belts comprises said at least one rotating continuous dewatering wire with said plurality of zones having different wire permeabilities, as recited in claim 2; said forming element comprises a forming roll, as recited in claim 3; said shoe press comprises a separate unit arranged behind, in the belt travel direction, a unit including said forming element and said two dewatering belts, as recited in claim 4; the tissue web is carried by one of the two dewatering belts subsequent to said forming element, and the tissue web and said one dewatering belt is guided through said shoe press, as recited in claim 5; said former comprises a twin wire former, as recited in claim 6; said former comprises a crescent former, and wherein said outer belt comprises said at least one dewatering wire with said plurality of zones having different wire permeabilities and said inner belt comprises a felt belt, as recited in claim 7; said shoe press comprises a shoe press unit and an opposing element, as recited in claim 8; said opposing element comprises a drying cylinder, as recited in claim 9; said opposing element comprises a Yankee cylinder, as recited in claim 10; said shoe press

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has a press nip length, viewed in a belt travel direction, less than or equal to about 60 mm and has a pressure profile over said press nip length with a maximum pressing pressure greater than or equal to about 3.3 MPa, as recited in claim 11; said shoe press has a press nip length, viewed in a belt travel direction, greater than about 80 mm and has a pressure profile over said press nip length with a maximum pressing pressure less than or equal to about 2 MPa, as recited in claim 12; said press nip length is less than about 200 mm, as recited in claim 13; said press nip length is a maximum of about 150 mm, as recited in claim 14; a drying zone in which the tissue web is acted upon at least partially by pressurized displacement gas, as recited in claim 15; said at least one dewatering wire with said plurality of zones having different wire permeabilities is located in an initial dewatering area, as recited in claim 16; said at least one dewatering wire with said plurality of zones having different wire permeabilities comprises a fabric formed by filling and warp yarns, as recited in claim 17; said at least one dewatering wire with said plurality of zones having different wire permeabilities comprises a fabric formed only by filling and warp yarns, as recited in claim 18; zones of different wire permeability of said at least one dewatering wire are produced by at least one of weaving yarns of different diameter and different weave pattern, as recited in claim 19; a conditioning device assigned to said at least one dewatering wire with said plurality of zones having different wire permeabilities, as recited in claim 20; said conditioning device comprises a wire cleaning device, as recited in claim 21; the tissue

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machine further including a former with a forming element and two rotating continuous dewatering belts arranged to converge to form a stock entry gap and then guided over the forming element as an outer belt, which does not contact the forming element, and as an inner belt, such that at least one of said outer and said inner belts comprises said at least one rotating continuous dewatering wire with the plurality of zones having different wire permeabilities, and said process further comprises forming the tissue web between the inner and outer belts, and guiding the inner and outer belts and tissue web over the forming element, as recited in claim 23; the forming element comprises a forming roll, and said process further comprises guiding the inner and outer belts and the tissue web over the forming roll, as recited in claim 24; the shoe press is arranged as a separate from, and behind in a belt travel direction, a unit including the forming element and the two dewatering belts, as recited in claim 25; carrying, after the forming element and on one of the two dewatering belts, the tissue web, and guiding the tissue web and the one dewatering belt through the shoe press, as recited in claim 26; said former comprises a twin wire former, as recited in claim 27; said former comprises a crescent former, and the outer belt comprises the at least one dewatering wire with the plurality of zones having different wire permeabilities, and the inner belt comprises a felt belt, as recited in claim 28; dewatering at a machine speed greater than about 1300 m/min, as recited in claim 29; dewatering at a machine speed greater than about 1500 m/min, as recited in claim 30; dewatering at a machine speed greater than about



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1800 m/min, as recited in claim 31; dewatering the tissue web, in an initial dewatering area, with at least the at least one dewatering wire with the plurality of zones having different wire permeabilities, as recited in claim 32; the at least one dewatering wire with the plurality of zones having different wire permeabilities comprises a fabric formed by filling and warp yarns, as recited in claim 33; the at least one dewatering wire with the plurality of zones having different wire permeabilities comprises a fabric formed only by filling and warp yarns, as recited in claim 34; the at least one dewatering wire with the plurality of zones having different wire permeabilities comprises zones of different wire permeability formed by at least one of weaving yarns of different diameter and different weave pattern, as recited in claim 35; the at least one dewatering wire with the plurality of zones having different wire permeabilities is located in an area in which solids content of the tissue web is less than about 20%, as recited in claim 36; the at least one dewatering wire with the plurality of zones having different wire permeabilities is located in an area in which solids content of the tissue web is less than about 12%, as recited in claim 37; the at least one dewatering wire with the plurality of zones having different wire permeabilities is located in an initial sheet forming area having a solids content of less than about 6%, as recited in claim 38; said forming element comprises a forming roll, as recited in claim 40; the at least one dewatering wire with said plurality of zones with different wire permeabilities comprises a plurality of zones in which each zone has a maximum extension of less than about 5 mm, as recited in claim

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41; said maximum extension of each said zone is less than about 3 mm, as recited in claim 42; said former comprises a crescent former, and wherein said outer belt comprises said at least one dewatering wire with said plurality of zones with different wire permeabilities and said inner belt comprises a felt belt, as recited in claim 43; a suction zone located within a loop of said inner belt, and a conditioning device associated with said outer belt, as recited in claim 44; said suction zone is located in said forming roll, as recited in claim 45; an apparatus to one of control or regulate said suction zone, as recited in claim 46; said suction zone comprises at least two suction zones separated in a belt run direction, as recited in claim 47; an apparatus to one of control or regulate said at least two suction zones, as recited in claim 48; said zones of different wire permeabilities are formed by warp and weft threads, as recited in claims 49, 51, and 53; and said zones of different wire permeabilities are structured to provide at least two different dewatering speeds, as recited in claims 50, 52, and 54.

Accordingly, Appellants request that the Board reverse the Examiner's decision to finally reject claims 1 - 54 under 35 U.S.C. § 103(a) that the application be remanded to the Examiner for withdrawal of the rejection over SCHIEL or EDWARDS in view of HAY and an early allowance of all claims on appeal.

**(B) Conclusion**


Appellants submit that HAY is not prior art against the instant invention, and that the

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applied art of record fails to disclose or suggest the unique combination of features recited in Appellants' claims 1 - 54. In particular, Appellants note that claims 1 - 54 are patentable under 35 U.S.C. § 103(a) over SCHIEL or EDWARDS in view of HAY. Accordingly, Appellants respectfully request that the Board reverse the Examiner's decision to finally reject claims 1 - 54 under 35 U.S.C. § 103(a) and remand the application to the Examiner for withdrawal of the rejection.

Thus, Appellants respectfully submit that each and every pending claim of the present application meets the requirements for patentability under 35 U.S.C. § 103(a), and that the present application and each pending claim are allowable over the prior art of record.

Respectfully submitted,  
Thomas THORÖE SCHERB et al.



Neil F. Greenblum  
Reg. No. 28,394 *RF 35, 43*

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Attachments:      Appendix A: Claims on Appeal

**APPENDIX A**

***CLAIMS ON APPEAL***

1. (Amended) A machine for producing a tissue web comprising:  
a forming area including at least one rotating continuous dewatering wire with a plurality of zones having different wire permeabilities; and  
at least one shoe press located downstream of said forming area, with respect to a web travel direction.
2. (Amended) The machine in accordance with claim 1, further comprising a former including a forming element and two rotating continuous dewatering belts;  
said two rotating continuous dewatering belts being arranged to converge to form a stock entry gap and being conducted over said forming element as an outer belt, which does not contact said forming element, and as an inner belt,  
wherein at least one of said outer and said inner belts comprises said at least one rotating continuous dewatering wire with said plurality of zones having different wire permeabilities.
3. The machine in accordance with claim 2, wherein said forming element comprises a forming roll.
4. The machine in accordance with claim 3, wherein said shoe press comprises a separate unit arranged behind, in the belt travel direction, a unit including said forming element and said two dewatering belts.

5. The machine in accordance with claim 3, wherein the tissue web is carried by one of the two dewatering belts subsequent to said forming element, and the tissue web and said one dewatering belt is guided through said shoe press.

6. The machine in accordance with claim 2, wherein said former comprises a twin wire former.

7. (Amended) The machine in accordance with claim 2, wherein said former comprises a crescent former, and wherein said outer belt comprises said at least one dewatering wire with said plurality of zones having different wire permeabilities and said inner belt comprises a felt belt.

8. The machine in accordance with claim 1, wherein said shoe press comprises a shoe press unit and an opposing element.

9. The machine in accordance with claim 8, wherein said opposing element comprises a drying cylinder.

10. The machine in accordance with claim 8, wherein said opposing element comprises a Yankee cylinder.

11. The machine in accordance with claim 1, wherein said shoe press has a press nip length, viewed in a belt travel direction, less than or equal to about 60 mm and has a pressure profile over said press nip length with a maximum pressing pressure greater than or equal to about 3.3 MPa.

12. The machine in accordance with claim 1, wherein said shoe press has a press nip length, viewed in a belt travel direction, greater than about 80 mm and has a pressure profile over said press nip length with a maximum pressing pressure less than or equal to about 2 MPa.

13. The machine in accordance with claim 12, wherein said press nip length is less than about 200 mm.

14. The machine in accordance with claim 12, wherein said press nip length is a maximum of about 150 mm.

15. The machine in accordance with claim 1, further comprising a drying zone in which the tissue web is acted upon at least partially by pressurized displacement gas.

16. (Amended) The machine in accordance with claim 1, wherein said at least one dewatering wire with said plurality of zones having different wire permeabilities is located in an initial dewatering area.

17. (Amended) The machine in accordance with claim 1, wherein said at least one dewatering wire with said plurality of zones having different wire permeabilities comprises a fabric formed by filling and warp yarns.

18. (Amended) The machine in accordance with claim 17, wherein said at least one dewatering wire with said plurality of zones having different wire permeabilities comprises a fabric formed only by filling and warp yarns.

19. (Amended) The machine in accordance with claim 17, wherein zones of different wire permeability of said at least one dewatering wire are produced by at least one of weaving yarns of different diameter and different weave pattern.

20. (Amended) The machine in accordance with claim 1, further comprising a conditioning device assigned to said at least one dewatering wire with said plurality of zones having different wire permeabilities.

21. The machine in accordance with claim 20, wherein said conditioning device comprises a wire cleaning device.

22. A process for producing a tissue web in a tissue machine having a forming area including at least one rotating continuous dewatering wire with a plurality of zones having different wire permeabilities and at least one shoe press, the process comprising:

dewatering the tissue web with at least the at least one continuous dewatering wire with the plurality of zones having different wire permeabilities; and

pressing the tissue web in the at least one shoe press downstream of the forming area.

23. (Amended) The process in accordance with claim 22, wherein the tissue machine further including a former with a forming element and two rotating continuous dewatering belts arranged to converge to form a stock entry gap and then guided over the forming element as an outer belt, which does not contact the forming element, and as an inner belt, such that at least one of said outer and said inner belts comprises said at least one

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rotating continuous dewatering wire with the plurality of zones having different wire permeabilities, and said process further comprises:

forming the tissue web between the inner and outer belts; and

guiding the inner and outer belts and tissue web over the forming element.

24. The process in accordance with claim 23, wherein the forming element comprises a forming roll, and said process further comprises:

guiding the inner and outer belts and the tissue web over the forming roll.

25. The process in accordance with claim 23, wherein the shoe press is arranged as a separate from, and behind in a belt travel direction, a unit including the forming element and the two dewatering belts.

26. The process in accordance with claim 23, further comprising:

carrying, after the forming element and on one of the two dewatering belts, the tissue web; and

guiding the tissue web and the one dewatering belt through the shoe press.

27. The process in accordance with claim 23, wherein said former comprises a twin wire former.

28. (Amended) The process in accordance with claim 23, wherein said former comprises a crescent former, and the outer belt comprises the at least one dewatering wire with the plurality of zones having different wire permeabilities, and the inner belt comprises



a felt belt.

29. The process in accordance with claim 22, further comprising:

dewatering at a machine speed greater than about 1300 m/min.

30. The process in accordance with claim 22, further comprising:

dewatering at a machine speed greater than about 1500 m/min.

31. The process in accordance with claim 22, further comprising:

dewatering at a machine speed greater than about 1800 m/min.

32. (Amended) The process in accordance with claim 22, further comprising dewatering the tissue web, in an initial dewatering area, with at least the at least one dewatering wire with the plurality of zones having different wire permeabilities.

33. (Amended) The process in accordance with claim 22, wherein the at least one dewatering wire with the plurality of zones having different wire permeabilities comprises a fabric formed by filling and warp yarns.

34. (Amended) The process in accordance with claim 33, wherein the at least one dewatering wire with the plurality of zones having different wire permeabilities comprises a fabric formed only by filling and warp yarns.

35. (Amended) The process in accordance with claim 22, wherein the at least one dewatering wire with the plurality of zones having different wire permeabilities comprises zones of different wire permeability formed by at least one of weaving yarns of different

diameter and different weave pattern.

36. (Amended) The process in accordance with claim 22, wherein the at least one dewatering wire with the plurality of zones having different wire permeabilities is located in an area in which solids content of the tissue web is less than about 20%.

37. (Amended) The process in accordance with claim 36, wherein the at least one dewatering wire with the plurality of zones having different wire permeabilities is located in an area in which solids content of the tissue web is less than about 12%.

38. (Amended) The process in accordance with claim 36, wherein the at least one dewatering wire with the plurality of zones having different wire permeabilities is located in an initial sheet forming area having a solids content of less than about 6%.

39. (Amended) An tissue paper former comprising:

a forming element;

at least two rotating continuous dewatering wires, in which at least one of said two rotating continuous dewatering wires has a plurality of zones with different wire permeabilities, arranged over said forming element, as an outer wire not in contact with said forming element and as an inner wire; and

at least one shoe press arranged downstream, relative to a wire travel direction, from said forming element.

40. The tissue paper former in accordance with claim 39, wherein said forming

element comprises a forming roll.

41. (Amended) The tissue paper former in accordance with claim 40, wherein the at least one dewatering wire with said plurality of zones with different wire permeabilities comprises a plurality of zones in which each zone has a maximum extension of less than about 5 mm.

42. The tissue paper former in accordance with claim 41, wherein said maximum extension of each said zone is less than about 3 mm.

43. (Amended) The tissue paper former in accordance with claim 40, wherein said former comprises a crescent former, and wherein said outer belt comprises said at least one dewatering wire with said plurality of zones with different wire permeabilities and said inner belt comprises a felt belt.

44. The tissue paper former in accordance with claim 43, further comprising a suction zone located within a loop of said inner belt; and  
a conditioning device associated with said outer belt.

45. The tissue paper former in accordance with claim 44, wherein said suction zone is located in said forming roll.

46. The tissue paper former in accordance with claim 45, further comprising an apparatus to one of control or regulate said suction zone.

47. The tissue paper former in accordance with claim 45, wherein said suction zone

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comprises at least two suction zones separated in a belt run direction.

48. The tissue paper former in accordance with claim 47, further comprising an apparatus to one of control or regulate said at least two suction zones.

49. The machine in accordance with claim 1, wherein said zones of different wire permeabilities are formed by warp and weft threads.

50. The machine in accordance with claim 1, wherein said zones of different wire permeabilities are structured to provide at least two different dewatering speeds.

51. The process in accordance with claim 22, wherein said zones of different wire permeabilities are formed by warp and weft threads.

52. The process in accordance with claim 22, wherein said zones of different wire permeabilities are structured to provide at least two different dewatering speeds.

53. The tissue paper former in accordance with claim 39, wherein said zones of different wire permeabilities are formed by warp and weft threads.

54. The tissue paper former in accordance with claim 39, wherein said zones of different wire permeabilities are structured to provide at least two different dewatering speeds.